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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/002,180	12/05/2001	Amir Satran	10236-039	3617

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WOMBLE CARLYLE SANDRIDGE & RICE, PLLC
P.O. BOX 7037
ATLANTA, GA 30357-0037

EXAMINER

PETERSON, KENNETH E

ART UNIT PAPER NUMBER

3724

DATE MAILED: 12/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding. ¹²

Office Action Summary

Application No.

10/002,180

Applicant(s)

SATRAN ET AL.

Examiner

Kenneth E Peterson

Art Unit

3724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

1. Claims 7-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 7 and 8, the phrase "each cutting insert is oriented symmetrically with respect to a plane of rotation of the cutting tool" is indefinite. It is not understood what "oriented symmetrically" means. Would this phrase have a different meaning than "each cutting insert is symmetrical about a plane of rotation of the cutting tool"?

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over the European patent to Arai et al (EP 0 505 574).

Arai shows a milling cutter having a circular disk with inserts received therein as best seen in figures 1,6 and 7. Each insert contacts a radially extending pocket rear surface at two spaced apart abutment surfaces, as best seen in figure 1.

Arai's insert has a flat top and bottom surface, a screw (107), corners of diminished thickness (at 112), and four concave, arcuate side surfaces (109,110) with respective arcuate cutting edges (111). Arai's side surfaces and cutting edges extend inwardly (at 110), but not at the outer portion thereof (at 109). However, the Examiner takes Official Notice that it is common for milling inserts to have acutely angled corners.

For example, see the Betman et al. '137 patent or the Lynde '958 patent. Further in support of Examiner's taking of Official Notice the reference to Satran (WO 00/02693). It would have been obvious to one of ordinary skill in the art to have made Arai's insert corners be symmetrical and acutely angled, even at the outer portion, as is well known and exemplified by Betman, Lynde and Satran, in order to achieve the superior corner cutting that comes with acutely angled insert corners.

Examiner further takes Official Notice that it is common for many different types of milling tools to use the same insert. Lathes, rotary millers and the like all operate on the same principle of relative motion between the insert and the workpiece and thus the same inserts are found to effective in different types of milling. For this reason, inserts from one type of milling machine can provide teachings for inserts on a different type of milling machine.

4. Claims 7-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satran (WO 00/02693).

Satran shows a rotary cutting tool in figure 6a having a plurality of cutter inserts (1) held by radial screws (48) and two spaced abutment surfaces (as seen in figures 6a and 6b).

Each cutter insert has inwardly converging sides and edges comprising three sections, as best seen in figure 6b, with the outer two sections being straight, and the inner section having arcuate portions. As seen in figure 4, the cutting insert is thicker in the middle.

Satran only has cutting edges on two sides, rather than on all four. Examiner takes Official Notice that it is old and well known for indexable inserts to have cutting edges on all four sides. For example, Arai (EP 0505574) shows this feature. It would have been obvious to one of ordinary skill in the art to have modified Satran by making all four sides of the insert have cutting edges, as is well known and taught by Arai (0505574), in order to prolong the life of the insert by doubling the number of cutting edges that can be shifted into a cutting position.

5. Applicant's arguments have been fully considered but they are not persuasive.

Applicant has overcome the objection to the drawings.

Applicant argues against the Arai rejection under 35 USC 103, stating that Arai's pocket base is not tangentially extending. However, as seen in Arai's figures 6 and 7, one can draw a line in the plane of Arai's pocket base, and that line would be tangential to the rotating cutting tool. Note that Applicant's claims do not require that the pocket base extend parallel to the axis of rotation of the rotating cutting tool.

Applicant further argues that Arai's pocket rear is not "generally radially extending". Examiner disagrees. Arai's pocket rear is generally parallel to a line extending radially from the axis of rotation of the rotating cutting tool, and thus the pocket rear is considered to be "generally radially extending".

Applicant further argues that Arai "teaches away" from angling the outer surfaces of each side face, since Arai relies on his non-angled outer surfaces to properly seat the insert. However, numerous pieces of prior art indexable inserts *have* angled the outer

surfaces of their side faces, and not had problems properly seating the insert. Betman curves his pocket rear to better seat the insert. Satran (WO 00/02693) has two angled faces on the pocket rear to better seat the insert. From this, one can see that Arai "teaches a way" of seating the insert which is just one of several different ways of seating an insert. Since Arai does not specifically denigrate the seating methodology of Betman or Satran, it is clear that Arai is simply "teaching a way", not "teaching away".

6. Made of record are patents to Schmidt, Maier (European) and Wiman et al. showing indexable inserts.


7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ken Peterson at 703-308-2186, who can normally be reached on Monday thru Thursday between 7am and 4pm. In lieu of mailing, it is encouraged that all formal responses be faxed to 703-872-9306.

If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Allan Shoap can be reached on 703-308-1082. Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist whose telephone number is 703-308-1148.

kp
December 23, 2003



KENNETH E. PETERSON
PRIMARY EXAMINER